

In the Remarks

The Applicants have amended the Specification to correct minor inadvertent separations of text within selected paragraphs. The Applicants have also amended the Abstract by providing a substitute Abstract that has been shortened, combined into one paragraph and amended to remove “legal” language.

Claims 1 – 19 and 21 – 23 have been amended in accordance with the Examiner’s helpful suggestion with respect to proper form. Also, additional selected minor amendments as to form have been made to a number of the claims.

The Applicants acknowledge the 35 U.S.C. §112 rejection of Claims 1 – 14. The Applicants respectfully submit that Claims 1 – 14, as originally filed, are in compliance with §112. Those of ordinary skill in the art can readily look to Claim 1, for example, and determine that the claimed invention includes a polyester multifilament yarn made from polytrimethylene terephthalate having specific physical characteristics set forth in that claim. Further, reference to the Applicants’ Specification provides Claim 1 with the proper context in which it should be interpreted by those of ordinary skill in the art. Accordingly, the Applicants respectfully submit that Claim 1 is fully in compliance with §112. However, as simply a matter of form, the Applicants have amended Claim 1 to reassert in a different location and in a still further clearer form that the polyester multifilament yarn is comprised of polytrimethylene terephthalate filaments. The filaments clearly form the polyester multifilament yarn and the resulting yarn has the specified physical characteristics. Amended Claim 1 is clearly in conformance with §112.

With respect to the Examiner’s helpful comments concerning the need for the claimed subject matter to be described with sufficient particularity that it can be identified so that one can determine

what will and will not infringe, we respectfully submit that those of ordinary skill in the art can easily do this by identifying the polyester multifilament yarn as multiple filaments of polytrimethylene terephthalate forming a multifilament yarn and then measuring the physical characteristics of the yarn in accordance with the teachings of the Specification. This is a simple matter for one of ordinary skill in the art and the claim fully provides the necessary roadmap for those of ordinary skill in the art to achieve this. Withdrawal of the 35 U.S.C. §112 rejection is respectfully requested.

The Applicants acknowledge the rejection of Claims 1 – 13, 15 – 19 and 22 – 23 as being anticipated by or obvious over Fujimoto. The Applicants will address these rejections first by referring to independent Claims 1 and 15. Claim 15 has been amended to include the subject matter of Claim 20. Therefore, the rejection of Claims 15 – 19 and 22 – 23 is moot.

With respect to Claims 1 – 13, the Applicants respectfully submit that Fujimoto fails to disclose, teach or suggest the invention as recited in those claims. The reason for this can be found by reference back to independent Claim 15, which is a method claim. Claim 15 sets forth a method of producing a multifilament yarn comprised of polymer substantially comprising polytrimethylene terephthalate. Particular characteristics of the polytrimethylene terephthalate and particular steps are performed that distinguish that method from the methodology of Fujimoto. As a consequence, the resulting polyester multifilament yarn, which is the subject matter of Claim 1, would inherently have different characteristics from the yarn disclosed by Fujimoto.

In that regard, the Applicants note with appreciation the Examiner's frank acknowledgment that Fujimoto does not explicitly teach the claim properties as recited in Claim 1. The Applicants further note with appreciation the Examiner's comments that "it is reasonable to presume the said properties are inherent to Fujimoto." Assuming *arguendo* that the starting material of Fujimoto and

this invention are the same, the resulting polyester filament yarn recited in Claim 1 would inherently be different from the fibers of Fujimoto inasmuch as the method of producing the polyester multifilament yarn of the invention and the method of producing the polyester fiber of Fujimoto are sharply different. In particular, Fujimoto fails to teach “drawing and heat-treatment using a textured roll of surface roughness 1.5S-8S, afterwhich it is continuously subjected to a relaxation heat treatment at a relaxation factor of 6 to 20%”. It is important in forming the yarns of Claims 1 – 13 that polytrimethylene terephthalate is melt spun and hauled-off at a spinning rate of at least 2000 m/min and, without winding up, subjected to drawing and heat-treatment using a textured roll of surface roughness 1.5S-8S, afterwhich it is continuously subjected to a relaxation heat treatment at a relaxation factor of 6 to 20%.

The above methodology makes it possible for the multifilament yarn to have a minimum value of the differential Young’s modulus at 3-10% extension of no more than 10 cN/dtex and, accordingly, the fabric stretches at low modulus so there is little sense of tightness, and it is possible to provide a polyester yarn and woven materials with a soft handle. Fujimoto does not disclose, teach or suggest this and did not intend to provide such a yarn. It is surprising that the polymethylene terephthalate multifilament yarn of Claims 1 – 13 simultaneously satisfies both of “minimum value of the differential Young’s modulus at 3 – 10% extension is no more than 10 cN/dtex” and “elastic recovery following 10% elongation is at least 90%.

The reasons are set forth on page 14, line 29 to page 15, line 1 of the Applicants’ Specification, wherein they state “By making the surface roughness at least 1.5S, the frictional coefficient between the yarn and roller is considerably reduced and there is a suitable degree of slip, so even at a high relaxation factor there is no winding of the yarn back on the heating roller, and

stable yarn production is possible”. That is, a partial relaxation is completed on the surface of the textured roll of surface roughness 1.5S-8S during heat-treatment. If the surface roughness is less than 1.5S, because the slip is not enough and relaxation of the yarn starts after leaving hot roller, heat set in the relaxed stage becomes insufficient.

As a consequence of the sharp differences in methodology between the invention and Fujimoto, the resulting polyester multifilament yarn as recited in Claims 1 – 13 would expect to inherently be different from the polyester fibers produced by the methodology of Fujimoto. Such sharp differences render Fujimoto inapplicable to Claims 1 – 13 under 35 U.S.C. §§102 and 103. Withdrawal of the rejection based on Fujimoto alone is respectfully requested.

The Applicants acknowledge the rejection of Claim 14 over the hypothetical combination Matsuo with Fujimoto. Unfortunately, Matsuo does not provides teachings or suggestions to one of ordinary skill in the art, even when taken with Fujimoto, that cures the deficiencies of Fujimoto as set forth above with respect to Claims 1 – 13. Accordingly, even when Matsuo is combined with Fujimoto, the resulting polyester yarn still is neither taught nor suggested by such a hypothetical combination. Withdrawal of the rejection of Claim 14 based on the hypothetical combination of Matsuo with Fujimoto is respectfully requested.

The Applicants acknowledge the rejection of Claims 20 – 21 over the hypothetical combination of Schippers with Fujimoto. As noted above, Claims 20 has been cancelled in view of the incorporation of the subject matter therein into Claim 15. Thus, the rejection is moot with respect to cancelled Claim 20. However, to the extent that the hypothetical combination is applied to amended Claim 15, the Applicants respectfully submit that Schippers does not provide teachings or suggestions to one of ordinary skill in the art that would solve the deficiencies described in detail

above with respect to Claim 15. One reason for this is that Schippers fails to disclose or even consider polytrimethylene terephthalate at all. In fact, Schippers is substantially devoid of discussion of the types of polymers that may be used in accordance with the apparatus disclosed therein. As a consequence, it inherently follows that Schippers fails to teach or suggest the ability of the polytrimethylene terephthalate multifilament yarn to simultaneously satisfy both of the claimed minimum value of the differential Young's modulus at 3-10% extension is no more than 10 cN/dtex and an elastic recovery following 10% elongation is at least 90%.

Moreover, there is utterly nothing in Schippers that teaches or suggests to one of ordinary skill in the art changes in surface roughness would result in fiber being more texturized. Mentioning of the rough or matte surface is made in the context of having a small coefficient of friction of the Godet rollers relative to the yarn. There is utterly no description at all concerning surface roughness influencing texturization. Moreover, not only are there no teachings or suggestions in this regard, but there is inherently nothing that would lead one of ordinary skill in the art to a reasonable expectation of success in establishing a particular surface roughness or that the surprising results achieved by the Applicants would occur. As a consequence, the Applicants respectfully submit that one of ordinary skill in the art would not make the hypothetical combination of Schippers with Fujimoto in the first place but, in any event, the hypothetical combination would still fail to teach or suggest the invention as it recited in independent Claim 15 and the claims depending therefrom. Withdrawal of the rejection is respectfully requested.

In light of the foregoing, we respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



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